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THE EFFECTIVENESS OF PHOTOGRAPHIC MEDIA IN THE MODIFICATION OF CHILDREN'S CLASSROOM BEHAVIOR AND SELF CONCEPTS.

BY- CATE, CHAS. A. AND OTHERS
FLORIDA UNIV., GAINESVILLE. COLL. OF EDUCATION

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THE ADJUSTMENT OF CHILDREN AS MANIFESTED IN THEIR SELF-CONCEPTS AND THEIR CLASSROOM BEHAVIOR WAS INVESTIGATED. IT WAS HYPOTHESIZED THAT THE OPPORTUNITY FOR CHILDREN TO OBSERVE PHOTOGRAPHS OF THEMSELVES IN SCHOOL WITHIN A POSITIVE FRAME OF REFERENCE WOULD ENABLE THEM (1) TO DEVELOP A MORE POSITIVE SELF-CONCEPT, (2) TO DEVELOP A MORE POSITIVE BEHAVIOR, AND (3) TO MORE RAPIDLY CORRECT ANTISOCIAL OR UNACCEPTABLE BEHAVIOR. PERSONALITY STRUCTURE, AND SELF-CONCEPT. EACH MEMBER OF THE EXPERIMENTAL CLASS WAS SHOWN A NUMBER OF PHOTOGRAPHS OF HIMSELF TAKEN IN A NORMAL SCHOOL SITUATION. AS THE STUDENT VIEWED THESE PHOTOGRAPHS IN THE PRESENCE OF AN INVESTIGATOR EVERY 5 TO 16 DAYS, THE INVESTIGATOR MADE FAVORABLE COMMENTS ABOUT THE STUDENTS AS REFLECTED BY THE PHOTOGRAPH. IN THE JUDGEMENT OF THE INVESTIGATORS, THE IMPACT OF THE PICTURES PRODUCED IMPORTANT CHANGES OF PERSONALITY AND SELF-CONCEPT IN SOME SUBJECTS. HOWEVER, THE AVAILABLE TESTS DID NOT PROVIDE SENSITIVE OR ACCURATE MEASUREMENT OF THE CHANGES PRODUCED, AND BEHAVIORAL CHANGES WERE NOT CLEARLY DEMONSTRATED. (AL)

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THE EFFECTIVENESS OF PHOTOGRAPHIC MEDIA IN THE MODIFICATION OF CHILDREN'S CLASSROOM BEHAVIOR AND SELF CONCEPTS

Report of Research Project

Funded by

New Educational Media Branch
United States Office of Education
Department of Health, Education, and Welfare

By

Principal Investigators
Chas. A. Cate, Assoc. Prof. of Education, University of Florida
Myron A. Cunningham, Prof. of Education, University of Florida
Theodore Landsman, Prof. of Education, University of Florida

College of Education
University of Florida
Gainesville, Florida

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FOREWORD

The program of research herein reported was supported by the Educational Media Branch, U. S. Office of Education, Department of Health, Education and Welfare, under Grant No. 7-08-072, awarded under Title VII of the National Defense Education Act of 1958 (P.L. 85-864) to the College of Education, University of Florida.

This research was conducted in selected sixth grades of the public schools of Alachua County, Florida. The school room atmosphere of the Experimental Group and the Control Groups was as truly representative of the school system as it was possible to obtain.

The study was conducted by Chas. A. Cate, Myron A. Cunningham and Theodore Landsman. The research assistants who participated in the project were: Lester Tuttle, Sheila Scott, Ted Miller, Sheila White, Joan Kruse, Brad Scott, and Eleanor Callon.

The investigators are particularly indebted to the students in the classes included in the study; to the teachers, Mrs. Rodney L. Bishop, Mrs. Frances G. Lunsford, and Mrs. Sue G. Yates, and to the Alachua County School officials.

To Mr. Robert O. Turner, Principal, and Mr. W. W. Abbott, sixth grade teacher, both of P. K. Yonge School,

go our thanks for permitting a pilot study to be made in that school prior to the study itself.

Especially grateful are we for the aid and assistance provided by Dr. William Spears in advice and direction in those phases of the study which required statistical treatment of the data.

Thanks are also due to J. B. White, Dean of the College of Education, for his cooperation and encouragement; to Mrs. Jean Fleming, a doctoral student in the College of Education, who made an exhaustive study of the literature on the use of photography in studying behavior and on body image; to Mrs. Betty B. Jones for the preparation of the manuscript and for her continued aid throughout the progress of the experiment; and to the many members of the College of Education faculty who aided in so many ways as the study progressed.

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INTRODUCTION

There appears to be general agreement concerning a direct relationship between overall adjustment of children and their academic achievement. This relationship has been demonstrated in a number of studies. A few major studies on the impact of praise and blame in the modification of academic achievement are available. The impact of similar positive and/or negative stimuli in classroom adjustment is largely unexplored through experimental approaches.

If the above mentioned relationship is such a direct one, and if the impact of positive and/or negative stimuli can so effect classroom adjustment, an understanding of how such stimuli function would be invaluable in creating those classroom atmospheres and situations most beneficial to students.

Purpose of the Study

The purpose of this study was to examine the adjustment of children as manifested in (a) their self-concepts and (b) their classroom behavior. It attempted to investigate the use of photographic stimuli in a context of positive adult-child conferences as a method of developing more positive behavior in the same manner as praise or other positive stimuli have been used to correct and to motivate more positive academic achievement in other explorations.

Background of the Study

The investigators' original hypothesis concerning the effectiveness of photographs as communicative devices in describing the conduct of children came as a result of the experiences of several members of the College staff and graduate students in the College of Education. Spearheading the work in its initial stages was Dr. Myron A. Cunningham. Having convinced himself of the effectiveness of still photographs made in the ongoing classroom, Dr. Cunningham interested others in working with him as well as developing the techniques in their own classrooms. Prominent among these persons were Mr. Steve H. Voss, who tested the techniques in his sixth grade classroom, and Miss Manette Swett, a kindergarten teacher in the P. K. Yonge Laboratory School in the College of Education. The absence of reports in the literature relating to such techniques led to the postulation of a number of questions concerning the use of such methods. These questions eventuated in the research proposal here reported.

The data which comprises the study was gathered in three sixth-grade classrooms of the Alachua County Public Schools. The three classrooms were each in a different school. The three schools, Kirby Smith, Sidney Lanier, and Stephen Foster, all lie within the corporate city limits.

Need for the Study

Theoretical postulations derived largely from perceptual theory, place greatest emphasis on the self-concept

of the child as a product of his early adult-child experiences and as a director of his classroom behavior. A child who manifests anti-social or negative behavior may be thought of as having developed negative feelings toward self, conceptualized as a negative self-picture. This tends the child toward behavior which is consistently negative or anti-social. One's self-concept and the picture which the individual gives others often are disparate. Whether this difference aids the child in his adjustment may depend at least in part upon the extent to which his own concept agrees with what other people see in his actions. If the self-concept is largely a product of early adult-child experiences, it is possible that the accuracy of his knowledge of how others see him can allow him to more positively adjust his actions and his own evaluations of self. In a like manner, knowledge of methods whereby youngsters might be aided in acquiring more positive self-concepts would be invaluable to the educator.

Statement of the Problem

Assuming the validity of the foregoing assumptions; that is, that children's self-concepts are the product of early adult-child experiences, that such self-concepts aid in determining children's classroom behavior, that more positive concepts of self will eventuate in more beneficial classroom behavior, and that the individual's self-concept and others viewing him are disparate, it then develops

that it appears desirable to aid the child in getting a more accurate view of himself as others see him and in aiding him to form more positive concepts of himself. The camera provides the means for obtaining a view of self as others see one. The use of such pictures made in the social context of the ongoing classroom viewed and discussed in the presence of a counselor who stressed only the positive aspects of the picture seem to offer a method of strengthening the positive aspects of individuals' self-concepts.

The experimental phase of the study undertook to test two hypotheses stated as follows: (a) the opportunity for children to observe photographs of themselves in school within a positive frame of reference enables them to develop a more positive self-concept, (b) the opportunity for students to observe photographs of themselves in school situations within a positive frame of reference enables them to develop more positive behavior and to more rapidly correct anti-social or unacceptable behavior.

REVIEW OF THE LITERATURE

Man has always been interested in representations of himself. Records of behavior, in statuary, friezes and pictures on stone, wood, canvas, date back several thousand years. These are commentaries by observers on the motivation of the subject in having his likeness reproduced and on the responses of subject and viewers to the likeness.

The record of behavior, as captured in pictures, is much more voluminous since the invention, in the year 1822, of the first camera which used light sensitive material. In the past hundred and forty years, photographs of people engaged in every kind of human activity have been used for a variety of purposes, but principally to tell the story of events or to give viewers a more full and accurate perception of a person or persons than words alone can do. However, the photograph has been used as a data gathering instrument in many fields.

For the purposes of this study, the literature concerned with the photograph as a record, a data gathering means, and as stimulus for the subject has been searched and is reviewed. Much has been written on the use of the photograph as a story-telling device, but little of this is directly related to this study, so that it is not included in this review.

The Photograph as a Record of Behavior

Thorndike and Hagen list three criteria for the taking of data on the behavior of young children. They write:

> The important objectives here are to do away with dependence on memory, to get a record that will preserve as much as possible of the significant detail in the original behavior, and to develop a recording procedure that will interfere as little as possible with the process of observing the child.[1]

Charles Darwin, who gave much thought to the study of the expression of the emotions, said: "I found photographs made by the instantaneous process the best means of observation as allowing deliberation."[2] Darwin saw the photograph as meeting all of Thorndike and Hagen's criteria for recording adequate data on behavior.

Gesell, who quotes Darwin's statement on the efficacy of photographs as a data gathering technique, believes that "Vision is the most avid of all of our senses. . . . Visual hunger is virtually insatiable."[3] He and his associates made thousands of feet of film depicting development of children at thirty-four age levels, from infancy through ten years of age, and from these learned much of the individuality of children and of their growth patterns.

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[1]Thorndike, Robert L. and Elizabeth Hagen. Measurement and Evaluation in Psychology and Education, Revised Edition. New York: John Wiley and Sons, 1961, p. 402.

[2]Gesell, Arnold. Studies in Child Development. New York: Harper and Brothers, 1948, p. 13.

[3]Ibid., p. 13.

Margaret Mead, in her studies of cultures, has used the camera from her first trips to the islands of the Pacific. She took 25,000 pictures of individuals and groups in Bali. She sorted these and reduced the number to 4,000. These she gave to Frances Macgregor for analysis. In the exquisite volume, Balinese Children, the result of Macgregor's work, Mead writes:

> She (Macgregor) brought to the task a long experience of studying, photographing, and analyzing bodily movement--but these Balinese children were strangers and she had never been to Bali. Her understanding of the way they moved, of the individuality of each child, and of the distinctive Balinese character of each movement grew out of minute, empathic scrutiny of the hundreds of pictures of the children.[4]

Mead and Macgregor presented these photographs to Arnold Gesell, Frances Ilg, Louise Ames, and others of the Gesell research team, and received immediate response to and understanding of the behaviors of the children shown in the pictures.[5]

Able and eminent researchers, experienced in the study of human behavior, have found photography, both still and motion, to be a prime tool in research. Pictures have permitted the information presented in them to be analyzed at leisure and to capture for the photographers expression which was not noted while the data gatherer was in the situation.

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[4]Mead, Margaret. Growth and Culture. New York: G. P. Putnam's Sons, 1951, p. 2.

[5]Ibid., p. 55.

The Photograph as Stimulus for the Subject

Paul Schilder, whose investigations of the development of the body image have led him to a formulation of the order of perceptions of the individual, and these perceptions are closely linked with other attitudes, believes that the individual does not perceive certain aspects of the image until he is confronted with them. He writes: "We have to expect strong emotions concerning our body. We love it. We are narcissistic. . . ."[6]

Schilder quotes the work of Ross, who says that the person who views his mirrored face somehow translates himself into the role of the outside observer.[7] "We have always emphasized that the postural model of the body is not static, that it changes continually according to the life circumstances."[8] If, then, the individual's concepts of his body change continually, and if there is a tendency to view one's self in the role of an outside observer, it should follow that when an individual views his photograph, and perceives himself as others would see him at that moment, his perceptions of his own body will change. Hence, his whole perceptual structure will change as Schilder holds that the perceptions of the body are intertwined with the

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[6]Schilder, Paul. The Image and Appearance of the Human Body. New York: International Universities Press, 1950, p. 15.

[7]Ibid., p. 85.

[8]Ibid., p. 241.

physiological, anatomical, neurological, and psychological factors which govern perceptions in general.

Floyd S. Corneilison, Jr., and Jean Arsenian, working at the Boston University School of Medicine, took photographs of psychotic patients and showed them to the subjects in order to

> (1). . .investigate the responses of psychotic persons in carefully observed self-confrontation sessions, and (2) to determine what, if any, relation exists between repeated exposure to photographic self-images (self-image experience) and change in psychotic state.[9]

They reported that some patients showed a definite movement toward health as a result of self-image experiences. The photographs were the best record of the apparent improvement of these patients. They suggest that the focusing upon an external image of self may bring the subject into better contact with the realistic self.[10]

Corneilison, who is now at the University of Oklahoma School of Medicine, is continuing his investigations of patients' responses to their pictures.[11] Dr. Charles Brody, an associate of Dr. Corneilison, reported on some of the techniques of confrontation and measures of change in patients' states in a conference with this project's staff in December, 1960.

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[9]Corneilison, Floyd S., Jr., and Jean Arsenian. "A Study of the Response of Psychotic Patients to Photographic Self-Image Experience," Psychiatric Quarterly 34: 1, 1960.

[10]Ibid., p. 7.

[11]Florida Times Union, Jacksonville, Fla., March 13, 1960.

Dr. Marion Miller, a psychiatrist at the Louisiana State University School of Medicine, noted that patients at the Central Louisiana State Hospital were responding in various ways to their images in large mirrors which had been installed in the bathrooms of the hospital. Dr. Miller and others at the institution took pictures of patients alone and in groups, to find how much a patient would react to his own photograph and whether he would recognize himself in a picture with other patients. It was learned that patient reactions were many and varied, and that the study seemed to show that "the more socially withdrawn a patient is the less likely he is to recognize himself in a picture."[12]

Arthur Jersild writes of the response of tenth grade students to their pictures in the school annual. He noted that the students expressed pleasure or disappointment with pictures, depending on whether they liked the pictures of themselves. One boy commented, "This doesn't look like me. I don't look that good." He said that his freckles did not show in the picture, and that the freckles made him ugly. His friends did not notice his freckles and had a different image of him from that which he had. A girl who thought that her picture was not a true likeness held up the picture, which showed her pouting. At the moment her face had the same look that the picture showed. It appears that as

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[12]Times Picayune, New Orleans, Louisiana, March 19, 1961.

children view photographs of themselves they sometimes reveal self-perceptions.[13]

Responses to photographs are an everyday and universal phenomenon. Responses vary in depth and polarity as the subjects vary from self to others. The cartoonist, Fred Lasswell, who draws the comic strip, Snuffy Smith, has one series showing Snuffy's reactions to pictures of his dog, his wife, his child, and himself. Each of the pictures of others drew the comment that they were exact images. The picture of himself drew his ire, his strong statement that, "I ain't got no tomater-nose like that!"[14]

Stephen H. Voss, in his study, The Use of Photography to Study Children's Perceptions of Themselves and Others, reports his work in taking pictures of the children in a fifth grade classroom, showing the pictures to the children, recording their responses, and analyzing these responses.[15] He drew conclusions as to the efficacy of the method for gathering information, as to children's responses to pictures, as to the values of photographs in communication, and on the understanding of photographs and of responses to them.

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[13]Jersild, Arthur. In Search of Self. New York: Bureau of Publications, Teachers College, Columbia University, 1952, pp. 65-66.

[14]Florida Times Union, Jacksonville, Florida.

[15]Voss, Stephen H. The Use of Photography to Study Children's Perceptions of Themselves and Others. Unpublished doctoral dissertation, University of Florida, 1961.

Voss concluded, on the matter of children's responses to their pictures that the recognition they gained from having the pictures taken builds the subjects' concepts of their status and that reinforcement of the positive elements shown strengthens self-concept. Children are often more negative in their comments about themselves than of others. The responses of children to their photographs seemed to show that the children gained information about themselves which enabled them to build more realistic concepts of self and to accept what they believed to be weaknesses.[16]

A. L. Terlouw, a consultant for Eastman Kodak Company, tells of children's responses to pictures of themselves. The teacher with whom he worked took pictures of children correcting undesirable social conduct. These pictures were in the form of color slides. The slides were used as a stimulus for class discussion of conduct and as a means of showing parents how well the children were caring for the classroom and carrying out their duties. It was the judgment of Mr. Terlouw and the teacher that such a use of pictures was most valuable in creating desirable social conduct patterns.[17]

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[16] Ibid., p. 116-117.

[17] Personal letter, A. L. Terlouw to Stephen Voss, December 11, 1956.

Concluding Statement

The literature contains work on the picture as a record and on the picture as stimulus. Much that has been written on the perceptions as determinants of the self-concept and on the body image as a critical personality factor is germane to this study.

EXPERIMENTAL DESIGN AND PROCEDURES

To provide for an unambiguous resolution of the hypotheses advanced in this study, a design was developed which called for the selection of three distinct samples from a common population. The common population studied was sixth grade school children enrolled in the Gainesville, Florida, public school system. The three samples took the form of three sixth grade classes within this system.

Having obtained the three samples each one was treated in a distinct manner. Each member of one class, (the Experimental Group) was shown a number of photographs of himself taken in a normal school situation. Each student in this class viewed these pictures of himself at intervals that ranged from five to sixteen days. As he viewed these photographs in the presence of an investigator, the investigator made favorable comments about the students as reflected by the photograph. The students in the second class, (Control Group I) saw no pictures of themselves but were given verbal reinforcement of their classroom behavior by an investigator at intervals that ranged from five sixteen days. Students in the third class (Control Group II) were neither shown pictures of themselves nor were they verbally reinforced by an investigator. The only contact

that the research team had with the students in this group was limited to the administration of testing instruments.

The period of contact with the sample population was from September of 1960 through May of 1961, or one academic year.

The Pilot Study

Past experience has demonstrated that the discrepancy that exists between the planning stage and the executing stage of research is significant. This is particularly true in the case of research that is done in the public schools where many factors lie beyond the control of the investigators. As an attempt to eliminate and reduce such discrepancies and thereby evolve modifications in the design which would more nearly accommodate the actual conditions in which the research was to be conducted, this study began with a pilot investigation to check out the applicability of the original research design.

The pilot study was conducted at the P. K. Yonge Laboratory School of the College of Education, University of Florida. It ran for a period of four months. The investigators worked with a sixth grade section whose population was reasonably similar to the anticipated population to be investigated in the major study.

The staff was unanimous in their agreement that the pilot study was well worth the time and effort. There were two reasons for this agreement. First, all members of the

staff felt that they gained valuable experience in developing their skills in photography and interviewing techniques. At the termination of the pilot study the members of the research team were not only competent in the use of the 35mm cameras, but they had also gained insights and added facility in dealing with the interests and problems that are peculiar to children of this age group. Secondly, significant modifications based on the findings of the pilot study were made in both the selection and administration of the instruments used as a basis for evaluating the results of the experiment. For example, it was our original intent to use an instrument based upon the Q sort technique. However, in the pilot study it was found that this technique presupposed a level of judgment discrimination that did not obtain with sixth grade children. Accordingly, this instrument was discarded in favor of another instrument which was commensurate with the abilities of the children but still yielded data of the desired nature. Finally, many of the details associated with the mechanical administration of the project were refined.

Arrangement for the Study

Before the research team could gain access to the students who were to be studied it was necessary to gain the permission and cooperation of the county superintendent, principals and teachers of the schools involved. The county superintendent was approached first. He was familiarized

with the nature of the proposed research and its mode of administration. The county superintendent was sympathetic toward the research and gave his approval for the study. It must be pointed out that the superintendent, as with most men in a position of his responsibility, was concerned to be certain that the activities of the research team would in no way seriously interrupt or conflict with the normal operation of the student's school day activities. This request was only proper and our operating procedures were adjusted to accommodate this request.

Having received approval for the study from the county superintendent it was next necessary to find schools that were staffed with personnel who were interested in our research project. This was easily done and the three schools were selected. The principals and staffs of these schools proved acceptable for the requirements of the study.

Selection of the Schools

The research design called for the selection of three schools; a school for the experimental group, one for the first control group, and a third for the second control group. In selecting such schools it was necessary to control for several conditions which, if ignored, may have served to contaminate the findings of this study. First, it was necessary to insure that the students in these three schools were reasonably homogeneous with respect to

socio-economic status, age, intelligence, and had teachers who could be matched. Second, it was necessary to find schools that had facilities adequate to accommodate interviewing sessions and which were staffed with administrators and teachers who were sympathetic and enthusiastic toward our investigations.

Selection of the Teachers

The selection of the teachers involved in this study was of crucial importance. It would not be too much to say that their attitude toward the study was pivotal. An unfavorable attitude on their part toward the efforts of the investigators would most surely be reflected in the attitudes of the students toward the investigators. Not only was it necessary to insure that the teachers did not have a negative attitude toward the research, and thus find the presence of the investigators to be a burden or a threat, but it was also necessary that the teachers not be biased in favor of the research and thereby behave in a manner that would vitiate the controls that had been built into the design. To insure that the teachers possessed the qualities which were desired, great care was taken in their selection. The principals in no way coerced the teachers to cooperate with the research. Those who were finally selected, volunteered. Each teacher was then thoroughly briefed on the nature of the proposed study and was made

fully aware of the demands that would be placed upon her.

In addition to the criterion of "proper attitude toward the study" as mentioned above, these three teachers were selected because they could be matched in terms of age, sex, level of education, experience in the school system, and a record of successful teaching. Each teacher enjoyed a record of more than a decade of successful teaching experience. Each of the teachers held a master's degree; their ages were forty-nine, forty-six, and fifty-one; one had taught for eighteen years, the second fifteen years, and the third fourteen years.

Research Staff

The research staff was composed of a team of a ten people; one secretary, six graduate assistants and three professors. The problem, technique, design and organization of the study were conceived, supervised, and administered by Professors Cunningham, Cate, and Landsman. One of the assistants, an expert darkroom technician, devoted all of his time to developing and printing the photographs. The remaining five assistants, administered the tests, took the photographs and interviewed the students. Weekly meetings of the entire staff were held to facilitate coordination and to introduce administrative modifications designed to meet unexpected contingencies as they arose.

Materials

Cameras

The photographs that were used in this project were taken with 35 millimeter single action reflex cameras. To avoid the distractions caused by the use of flash bulbs, high speed film was used. This permitted the investigators to take pictures in all types of classroom conditions without the aid of artificial light.

Dark Room

The number of pictures taken in the course of this study numbered in excess of seven thousand. To curtail increased costs and to facilitate more latitude in controlling the use of the negatives, it was necessary to gain access to dark room facilities. With dark room facilities available, not only was the time lag between exposure and printing of the film reduced but it was also possible for the investigators to "crop" the negatives so as to bring out the desired aspects of the photo. This permitted the investigators to have photographs which emphasized the activities of the subject and reduce the extraneous background clutter so common to photographs that are printed commercially.

Tape Recorders

All of the interviews of the students were recorded on electronic tape recorders. Each investigator had a

Wollensak tape recorder at his disposal. The contents of these tapes were later transcribed by a typist and made available for further analysis.

Photographs

All photographs shown to the children were black and white. They were printed on 5" x 7" paper. Before being shown to the student they were put in cellophane loose-leaf binders to protect them from damage. The students were shown only those photographs which the investigators thought would have a positive effect upon the student. For example, photographs showing the student making a "good play" in a ball game would be shown to the student, while photographs that revealed a student's mistake in a ball game would be withheld from him. The effect of such selectivity in choosing photographs resulted in the taking of many more photographs than were actually shown to the students. In the case of some students it was sometimes necessary to take thirty exposures in order to insure that ten "good" pictures would result.

Research Procedures

Experimental Group

At the first of the year the experimental group consisted of a class of 28 students. By the end of the year this number had dropped to 23. The procedure followed in working with this group consisted of taking photographs of

the students in all phases of their school day activities. When these photographs had been developed and printed, each student was interviewed privately by an investigator and in the course of the interview he was shown pictures of himself. Attempts were made to obtain photographs that were representative of a cross section of the students' daily activities in school. This entailed photographing them in the lunchroom, on the playground, and in shop class as well as on class trips and in the setting of their regular classroom.

During the interview itself, attempts were made to structure the discussion around the photographs with the investigator focusing his comments upon the positive features of the student's behavior as revealed by the photographs. Particular emphasis was placed upon the student's personal appearance, physical coordination, peer group interaction, and the ability to relate to adults and authority figures.

The interviews were spaced at intervals that ranged from five to sixteen days. During the year each student was interviewed a total of 17 times. During each interview he was shown from six to ten photographs of himself. The time duration of each interview was not rigidly fixed. An upper limit of 15 minutes was adhered to for each interview, but no lower time limit was established. If a student did not express an interest in talking about his pictures, no

attempts were made to force him to do so. In short, steps were taken to avoid conditions that would lead to apprehension or tenseness on the part of the student.

Since the relationship that was developed between the child and the investigator in the context of the interview conference was crucial to this study, steps were taken to anticipate and avoid negative effects that may have grown out of this interpersonal relationship. To minimize the effects of personality conflicts or personal identification, each investigator interviewed a child only two consecutive times and then his interviewing schedule was rotated to another child. In this manner each investigator spent an equal amount of time with each student.

Each interview was recorded on an electronic tape recorder. These tapes were later analyzed so as to pick out themes of interest that the student revealed in the course of his interviews. Based upon such evidence of his interests, the investigators took steps to obtain photographs that would reflect these interests.

Control Group I

Control Group I consisted of a class of 31 students. By the end of the school year this number had dropped to 28. The procedures followed with this class consisted of observing the students in all phases of their school day activities. The investigators carried cameras into this classroom and simulated taking pictures of these students

but only occasionally were the cameras loaded with film. Although these students were never shown pictures of themselves, it was felt that the presence of a photographer in the classroom would compensate for the halo effect that a camera might produce upon the experimental group which was constantly being photographed. The presence of the cameras in the Control Group I was explained by telling the students that their pictures were being taken and at the end of the year they would be given an opportunity to see them. After observing the students the investigators interviewed them individually.

During the private interview the investigator structured the discussion around the activities that he had observed earlier. Since no photographs were used in these interviews, the investigator was forced to resort to verbal reinforcement of the student's observed behavior. Again, the investigator placed particular emphasis upon the student's personal appearance, physical coordination, peer-group interaction, ability to relate to adults or authority figures, and on any other observed episode that could be recalled to the student in a positive manner. As in the case of the Experimental Group, the interviews were spaced at intervals ranging from five to sixteen days. The length of each interviewing session was governed by the same considerations that applied to the Experimental Group. During the year each student was interviewed 17 times.

Again arrangements were made to insure that no single investigator interviewed a particular child more than two consecutive times. All interviews were recorded on an electronic tape recorder.

Control Group II

This class consisted of 33 students. At the end of the year this number had dropped to 30. The students in this group were neither observed, photographed, nor interviewed. The only contact that the investigators had with this class occurred during the administration of the evaluative instruments. These instruments were administered at the beginning, in the middle, and at the end of the year.

Procedures for Dealing With Additions and Dropouts

It was normal to expect that during the course of the year several of the students would drop out of school for various reasons. It was also anticipated that there would be several additions to each class as the year progressed. These expectations were realized. As students dropped out the size of the samples diminished. Those students who enrolled in the class after the beginning of the year were interviewed but they were not considered in the analysis of the data. This procedure was followed so that the new students would not feel conspicuous by their omission from the interviews and photographing.

Time Schedule

The design of this study called for a controlled time schedule. The factors that fell under this schedule were three; the testing sequence, the interviewing schedule, and the photographing and observing periods. All groups were tested at approximately the same stages of the project; a pretest administration, a re-administration of the same instruments midway through the project, and a post test administration at the end of the project. For those groups that were affected either by verbal interviews or interviews in conjunction with a presentation of photographs, the duration and spacing of such interviews was comparable. However, the spacing of these interviews was not rigid. Unexpected absences and the teachers' testing and teaching program demanded that the investigators adopt a flexible interviewing schedule. Therefore, it was determined that no single student would be interviewed at intervals that were shorter than five days or longer than sixteen days. This amount of flexibility proved adequate to the situation.

Instruments

In consideration of the hypotheses tested, instruments measuring changes in (a) behavior, (b) personality structure, and (c) self-concept were employed. These variables were measured by (1) the Cattell Behavior Rating Scale, (2) the Creelman Self Conception Test and (3) the

Institute for Personality Assessment Test (IPAT), respectively. A more complete description of these instruments and their modes of application follows in the analysis of the data to which the discussion now turns.

ANALYSIS OF RESULTS

The data of the study center about hypotheses concerning (1) changes in personality structure, (2) changes in behavior, and (3) changes in self concept. The design permitted comparisons between the Experimental Group and a first control group; the Experimental Group and a second control group; and, of course, the first and second control groups. Each subject in the Experimental Group received the full experimental treatment, pictures and interviews. The subjects in the first control group had their pictures taken, but they never saw them. They were interviewed. The second control group was simply tested. All groups were tested before, during, and after the experimental year.

Changes in Personality

The principal instrument utilized to measure personality change was the Institute for Personality Assessment Test (IPAT). The test was scored for fourteen factors as indicated in Table 1 (p. 29). The principal hypothesis regarding changes in personality was tested by the interation between times (of administration of the test) and groups (Experimental, Control I, and Control II) in a pseudo three-way analysis of variance. Significant

TABLE 1

IPAT
Interaction Between Times and Groups

	Factor Low . vs	High	ΣX^2	df	s^2	F	p
A	Schizothymia	- Cyclothymia	13.13	4	3.282	4.96	.001
B	Mental Defect	- General Intelligence	1.80	4	0.450	< 1	NS
C	Dissatisfied Emotional Instability	- Ego Strength	8.484	4	2.12	2.73	.057>p>.01
D	Phlegmatic Temperament	- Excitability	4.02	4	1.005	1.27	NS
E	Submissiveness	- Dominance	0.83	4	0.208	< 1	NS
F	Desurgency	- Surgency	1.86	4	0.465	< 1	NS
G	Lack of Rigid Internal Standards	- Super Ego Strength	1.68	4	0.420	< 1	NS
H	Threctia	- Paimia	11.55	4	2.89	3.89	.01>p>.001
I	Harria	- Premsia	4.08	4	1.020	1.13	NS
J	Zeppia	- Coasthenia	4.29	4	1.072	1.00	NS
N	Naturalness	- Shrewdness	2.51	4	0.628	< 1	NS
O	Confident Adequacy	- Guilt Proneness	8.64	4	2.16	2.04	NS(p=.10)
Q_3	Poor Self Sentiment Formation	- High Strength of Self Sentiment	6.46	4	1.61	1.93	NS(p=.10)
Q_4	Low Ergic Tension	- High Ergic Tension	1.92	4	0.480	< 1	NS

Note: NS = Not Significant

interactions are clearly indicated for only three of the fourteen factors: Factor A, cyclothymia; Factor C, ego strength; and Factor H, parmia. In addition, near significance was obtained for two other factors: Factor O, unperturbed adequacy; and Factor Q_3, self-sentiment. The more complete meaning of these factors if indicated in Table 2 (p. 31).

That there is a clear cut difference between the Experimental Group and the second (complete) control group in these three factors is indicated in the further analysis presented in Table 3 (p. 32). The three significant factors and the two near-significant factors name those areas of personality in which the widest divergence was predicted. The differences represented in Table 3 between the Experimental Group and Control Group II are significant for Factors A, C, and H, and they approach significance on Factor O.

Inasmuch as the differences represented between Control Group I and the Experimental Group do not reach the 5% level of significance, the differences must remain in doubt.

For the comparisons between Control Group I and Control Group II shown in Table 3, the significance of the differences found in Factors A, H. and Q_3 are inconsistent with other results and probably can only be understood with additional research. Figure 1 (p. 33) indicates the

TABLE 2

Selected IPAT Factors

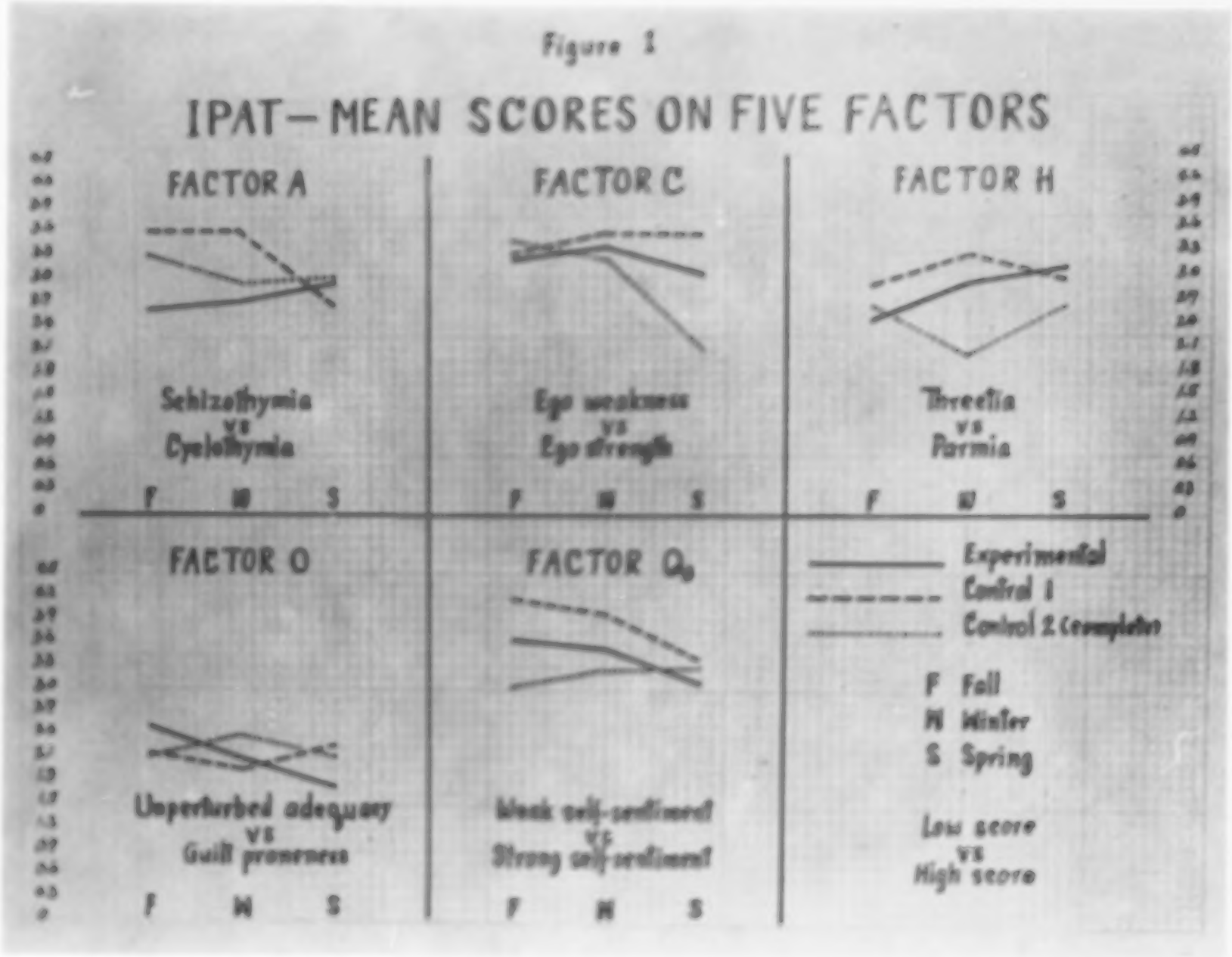
Factor	Low Score Description		High Score Description	
	Behavior	Trait	Trait	Behavior
A	Cool, Aloof	Reserved, Stiff (Schizothymia)	Easy Going (Cyclothymia)	Attentive to People, Sociable
C	Emotionally Immature, Changeable, Can't Face Realities	Emotionally Unstable (Ego Weakness)	Emotionally Mature (Ego Strength)	Stable, Realistic Calm
H	Timid, Threat-Sensitive	Shy (Threctia)	Venturesome (Parmia)	Thick-Skinned, Socially Bold, Impulsive
O	Secure, Confident	Complacent (Unperturbed Adequacy)	Self-Reproaching (Guilt Proneness, Insecure)	Worrying, Discouraged, Lonely
Q_3	Careless, Ignoring Social Standards	Lax (Weak Self-Sentiment)	Self-Controlled (Strong Self-Sentiment)	Self-Respecting, Has Will Power

TABLE 3

Interaction (Times x Groups) for Five Selected Factors on the IPAT

Factor	Experimental and Control Two		Control One and Control Two		Experimental and Control One	
	F	P	F	P	F	P
A	7.60	>.01	18.35	>.01	21.11	>.01
C	4.77	.01	1.16	NS	2.15	.20>p>.10
H	4.71	.01	4.86	.01	2.23	.20>p>.10
O	2.91	.10>p>.05	<1	NS	2.58	p< .10
Q_3	1.98	.20>p>.10	3.37	.05>p>.025	<1.	NS

Figure 1


IPAT—MEAN SCORES ON FIVE FACTORS
FACTOR A
Schizothymia vs Cyclothymia
FACTOR C
Ego weakness vs Ego strength
FACTOR H
Threctia vs Parmia
F W S
FACTOR O
Unperturbed adequacy vs Guilt proneness
FACTOR Q0
Weak self-sentiment vs Strong self-sentiment
Experimental
Control 1
Control 2 (complete)
F Fall
W Winter
S Spring
Low score vs High score

direction of change for these groups, as well as for the Experimental Group.

Returning to the comparisons between the Experimental Group and the complete control group shown in Figure 1, the following may be noted with regards to the Experimental Group.

a) Scores rose steadily through the year on Factors A and H.

b) Scores on Factor C did not drop as much from fall to spring testing.

c) Scores showed a steady decline throughout the year on Factor O.

d) Scores decline steadily throughout the year on Factor Q_3.

With the exception of Factor Q_3, all of these instances are in the directions predictable from the hypothesis.

In general, the results on the IPAT analysis indicate the probability of change in personality with regard to three out of fourteen factors due to the experimental procedure.

The Self Concept

The second series of hypotheses centered about anticipated changes in the self concept, and the Creelman Self Conception Test was the principal criterion. The test is scored in the following four variables: self acceptance,

acceptance of social values, self rejection, and rejection of social values. Generally, only self acceptance and self rejection are pertinent to this study, although data for all four variables are presented.

In Table 4 (p. 36), it is apparent that for self acceptance and self rejection, the Experimental Group followed the predicted direction. The "healthier" direction in self rejection is in the negative. Only the results for the Experimental Group follow this consistent pattern, while for the two control groups some positive change is seen, as in self acceptance for Control Group I. This, however, is not as clearly demonstrated in self rejection, where Control Group I progressed up to the winter testing but then lost some of its gains. Control Group II showed inconsistent results over the three testings with a slight drop in self acceptance in the spring testing from the winter testing, but did show consistent progression in avoiding self rejection.

Overall mean gains for the three groups in all four variables are shown in Table 5. The Experimental Group looked best; Control Group I, perhaps second best; Control Group II, least progressive. While all of these general directions support the basic hypothesis, the gains are apparently insufficient to withstand significance tests, as demonstrated in Table 6 (p. 37).

TABLE 4

Means of Three Groups on the
Creelman Self Conception Test

F - Fall Testing
W - Winter Testing
S - Spring Testing

	Factor I			Factor III		
	F	W	S	F	W	S
Experimental	60.87	86.26	89.22	14.43	11.30	10.26
Control I	81.57	86.09	104.87	10.78	6.61	11.13
Control II	59.13	77.74	76.09	12.17	13.39	8.87

TABLE 5

Mean Gains by Three Groups on the
Creelman Self Conception Test

	Factor I	Factor II	Factor III	Factor IV
Experimental	25.4	20.0	-4.1	1.74
Control I	23.3	22.8	0.3	2.00
Control II	16.9	20.0	03.3	-0.17

Factor I : Self Acceptance
Factor II : Acceptance of Social Values
Factor III: Self Rejction
Factor IV : Rejection of Social Values

TABLE 6

Three-Way Interaction Between Times and Groups on the Creelman Self Conception Test

	Factor	ΣX^2	df	s^2	F	p
I	Self Acceptance	3,999.0	4	999.8	2.05	NS
II	Acceptance of Social Values	960.0	4	240.0	< 1	NS
III	Self Rejection	532.7	4	133.2	1.37	NS
IV	Rejection of Social Values	162.4	4	40.6	< 1	NS

The hypotheses concerning self concept changes must remain in doubt, although the study indicates change in the predicted directions.

Behavior Changes

Behavior changes in the children were rated by teachers on the Cattell Scale. This scale comprises thirty items dealing with teachers' judgments of the student's behavior. The range of scores includes a choice of integers from zero through four, the implication being that the higher scores indicate more positive behavioral attributes than do the lower scores.

The students were rated at the beginning of the school term by their previous year's teachers and again at the end of the year by their present teachers.

Predictions were made about the direction of the change in ratings for nineteen of the thirty items. Comparisons of mean gains were made for the three groups. The comparisons were submitted to a t-test for significance of difference between mean gains. The formula used for the t-test is as follows:

$$t = \frac{\frac{\Sigma D_{i_1}}{N_1} - \frac{\Sigma D_{i_2}}{N_2}}{\sqrt{\left(\frac{N_1 \Sigma D_{i_1}^2 - (\Sigma D_{i_1})^2}{N_1} + \frac{N_2 \Sigma D_{i_2}^2 - (\Sigma D_{i_2})^2}{N_2}}{N_1 + N_2 - 2}\right)\left(\frac{N_1 + N_2}{N_1 N_2}\right)}}$$

The criterion for significance was $t = 2.015$, which for 44 degrees of freedom represents significance at the .01 level.

It was predicted that the Experimental Group would show a larger mean gain than either of the control groups on nineteen items.

In the comparison between the Experimental Group and Control Group II (See Table 7, p. 40) the mean gain was in the predicted direction ten of the nineteen times, and was significant on six of the items. The direction of the change differed from the prediction on eight items, significantly so six times. On one item, there was no difference between mean gains.

In the comparison between the Experimental Group and Control Group I, the mean gain was in the predicted direction ten of the nineteen times--significantly so six times. The difference was in the other direction eight times, and it was significant five of these times. There was no difference between mean gains on one item.

It was predicted that Control Group I would show a greater mean gain than Control Group II on all items except the one whose scale was reversed in mimeographing. Mean gains were significant in the predicted direction four out of ten times. They were significant in the other direction four out of eight times. There was no difference between mean gains on one item.

TABLE 7

Mean Gains for Three Groups
on Cattell Scale

Factor	Comparison	Mean Gain	t	p
1	SF - KS	-0.17	-0.69	NS
	KS - SL	0.96	2.98	.01<p
	SL - SF	-.79	-2.51	.05<p<.01
2	SF - KS	-0.95	-2.31	.05<p<.01
	KS - SL	-0.05	/< 1/	NS
	SL - SF	1.00	3.03	.01<p
3	SF - KS	-0.22	-1.11	NS
	KS - SL	1.05	4.16	.01<p
	SL - SF	00.83	-2.92	.01<p
5	SF - KS	2.52	6.63	.01<p
	KS - SL	-2.04	-5.51	.01<p
	SL - SF	-0.48	-1.14	NS
7	SF - KS	0.05	/< 1/	NS
	KS - SL	0.74	/< 1/	NS
	SL - SF	-0.79	/< 1/	NS
9	SF - KS	2.65	6.97	.01<p
	KS - SL	-1.87	9.26	.01<p
	SL - SF	-0.78	-2.36	.05<p<.01
10	SF - KS	-0.09	/< 1/	NS
	KS - SL	0.26	/< 1/	NS
	SL - SF	-0.17	/< 1/	NS
11	SF - KS	0.78	2.60	.05<p<.01
	KS - SL	0.78	2.36	.05<p<.01
	SL - SF	-1.56	-4.72	.01<p
12	SF - KS	0.30	1.42	NS
	KS - SL	-0.17	/< 1/	NS
	SL - SF	-0.13	/< 1/	NS
14	SF - KS	0.00	0.00	NS
	KS - SL	-0.35	-1.41	NS
	SL - SF	0.35	1.41	NS

Table 7 Continued

Factor	Comparison	Mean Gain	t	p
16	SF - KS	-1.61	-4.00	.01<p
	KS - SL	1.42	4.75	.01<p
	SL - SF	0.09	/< 1/	NS
20	SF - KS	-0.83	-2.05	.05<p<.01
	KS - SL	0.83	2.15	.05<p<.01
	SL - SF	0.00	0.00	NS
21	SF - KS	-0.83	-2.10	.05<p<.01
	KS - SL	0.13	/< 1/	NS
	SL - SF	0.70	1.97	NS
22	SF - KS	-0.26	/< 1/	NS
	KS - SL	-0.35	/< 1/	NS
	SL - SF	0.61	2.06	.05<1<.01
23	SF - KS	2.78	6.95	.01<p
	KS - SL	-1.39	-3.56	.01<p
	SL - SF	-1.39	-4.08	.01<p
24	SF - KS	2.82	6.13	.01<p
	KS - SL	-1.30	-3.33	.01<p
	SL - SF	-1.52	-4.47	.01<p
27	SF - KS	-0.44	-2.04	.05<p
	KS - SL	0.00	0.00	NS
	SL - SF	0.44	1.72	NS
29	SF - KS	1.39	3.39	.01<p
	KS - SL	-1.53	-3.89	.01<p
	SL - SF	0.14	/< 1/	NS
30	SF - KS	-0.91	-3.79	.01<p
	KS - SL	0.74	2.70	.01<p
	SL - SF	0.17	/< 1/	NS

Note: Scores are presented only for those items for which predictions were made.

Results on this instrument do not support the original hypotheses. The distribution of significant changes in the predicted direction and against the predicted direction is such that it could have occurred by chance.

For four items, the direction of the mean gains was in all comparisons different from that predicted. These items were as follows: (1) is jealous vs is not jealous, (2) is selfish vs thinks of others, (3) does not need a lot of attention vs wants a lot of attention, and (4) does not care what happens to his group vs wants to do his share for the group.

Those items in which the direction was as predicted for all three comparisons were the following: (1) cooperates vs does not cooperate, (2) gets excited vs keeps calm, (3) does what other people say vs has his own ideas about things, (4) is interested in what others think vs is only interested in himself.

CONCLUSIONS

The changes in personality that can take place as a result of human interaction are both varied and multitudinous. This is particularly true when the object of examination is so personal as one's self-concept. From the moment this project began to take form in the minds of the investigators, one recurring and never satisfactorily resolved question related to the adequacy and availability of instruments to measure accurately those human characteristics it was felt necessary to measure. This concern resulted in the measuring of many variables which bore little relation to the stated hypotheses.

One solution of the problem posed by the many-sidedness of personality change might be provided by a research design which will permit examination in depth of a very limited number of the many aspects examined in this study. Such an examination will require measuring instruments which do not exist at this time; and, in all probability, will be possible of construction only as an integrated activity of a research project investigating hypotheses not unlike those of the project here reported. Providing sensitive and accurate instruments to measure changes such as those that took place during the

experimental phase of this project might be one of the most important outcomes of such research. For important changes did take place in the subjects studied. But it is unlikely that the extent or the importance of such change can be demonstrated effectively until more sensitive and comprehensive instruments are devised and tested.

A most important observation was provided by the research assistants after many weeks of sitting with the subjects as these subjects examined and commented upon the pictures that had been made of them. This observation had to do with the desirability of including some type of global judgment of the changes which they felt they could see taking place. The desire of the research assistants to include some such judgment was most apparent at many of the staff meetings as they continued to comment upon the changes that were coming about in the subjects' dress, manner of speaking, ease or lack of ease in the social situations, attitudes toward adults, etc. Such ratings have not been included because of our inability to properly refine and statistically treat the results. Yet, there can be little doubt that such global judgments sometimes may give more complete and comprehensive pictures of growth, or lack of it, than do pencil and paper tests. The investigators would recommend that future like studies examine this possibility.

As has been previously indicated, the Institute for Personality Assessment Test (IPAT) was used to measure

personality change. The results of scoring these tests and the statistical treatment of the data are given in Chapter V. This test provides scores on fourteen factors. While significant differences in favor of the Experimental Group were indicated for only three of these factors and near significant differences on an additional two, it is possible that these five factors are the ones which are most important in relating to the original hypotheses. The differences in favor of the Experimental Group for the remaining nine factors are not significant but they are differences in favor of the Experimental Group and the trend is in the hypothesized direction. And, as is indicated by the results of the entire IPAT scoring, credence is given to the probability of personality change. In addition, in the factor testing emotional stability, Factor C, the impact of the pictures upon the Experimental Group seems apparent.

The Creelman Self Conception Test was used to measure changes in self-concept. The four variables measured by this test are self acceptance, acceptance of social values, self rejection and rejection of social values. Of these four variables, the measures of self acceptance and self rejection are of more importance for the purposes of this study. On these two variables, only the Experimental Group consistently followed the predicted direction. As Table 6 will show, the gains of the Experimental Group are

apparently insufficient to withstand significance tests but the study does show indication of positive change in the predicted direction.

Behavior changes in the children were rated by teachers on the Cattell Scale which provides for essentially independent ratings on a number of factors. A description of this scale and schematic presentations of the ratings are provided in Chapter V. An analysis of the results obtained by the use of the Cattell Scale does not yield much information that is useful in either supporting or rejecting the original hypotheses.

In summation, it appears that the following conclusions are warranted:

1. More sensitive and accurate measuring instruments are needed.
2. Some provision for the use of global judgments concerning change is desirable.
3. The measures of the three factors relating to personality change and self-concept show differences of statistical significance favoring the Experimental Group.
4. Behavioral change is not clearly demonstrated.
5. Self-concept factors measured appear to have shown gains of the Experimental Group in the predicted direction although not always gains

of sufficient strength to attain statistical significance.

6. The impact of the pictures upon the Experimental Group seems apparent in most instances and is significantly assured in a limited number of tested effects.

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APPENDIX

The Project in Pictures

Five of the research assistants were assigned to observe and to take pictures in the Experimental Group at Kirby Smith School and to observe in the first control group at Sidney LanierSchool. The researchers were in each classroom several days each week at various times during the school day. This staggering of the times for observation and for picture taking permitted a frequent sampling of all classroom activities and behaviors.

Plate I shows a research assistant photographing one of the children. The act of taking pictures caused no disruption of classroom routine nor did it draw the attention of the children. The more than 7,000 pictures taken in the pilot study and the project show the subjects attending to their immediate concerns and not to observers, as do the thousands of pictures taken of children in schools prior to the initiation of the project.

The research assistants took pictures of each subject with his peers of both sexes, with teachers, with other adults when possible, and in a variety of situations in the classroom, in the cafeteria , in the library, and on the playground. The children were photographed while they studied, as they made reports, as they handled materials of

PLATE I

Taking Pictures during the School Day

all kinds, as they were seeking help in several situations, and as they engaged in various activities on the playground. The frontispiece and Plate III are a sampling of the pictures taken in varied situations.

The pictures of the subjects in the Experimental Group were printed within a day or two of their taking. The research assistants sorted them by subjects and arranged them to show the subject during the interviews. Plate II shows the interview situation, with pictures spread out for examination by the subject and the tape recorder to record his responses. Subjects in the first control group were interviewed on the same schedule, each five to sixteen days, as those in the Experimental Group. Topics introduced were items of behavior observed in the daily schedule of the class. Responses of the subjects in the Control Group were recorded on tape.

Pictures shown to boys and girls in the experimental class and the topics discussed with those in the first control class were those in which positive behaviors were evidenced. Boys and girls with deep interests were given the opportunity to respond to these interests through the pictorial and verbal stimuli.

It was noted that children were appreciative of the relationships with the research assistants. The interviews with each child were spread among the research assistants to prevent very close attachments on the part of a boy or girl with only one assistant.

PLATE II

Interviewing Subjects in the Experimental Class

Pictures shown as the frontispiece and as Plates I-XI were taken in Kirby Smith and Waldo Schools in Alachua County, and in the P. K. Yonge School of the University of Florida. They were taken by Sheila White and Myron A. Cunningham.

PLATE III

The subject, shown with the teacher, would perhaps recall the subject of the conversation and the work which was initiated or successfully completed with the teacher's help. If the subject did not refer to his relationship with the teacher, the interviewer would do so from this and other observations, stressing the positive aspects of the relationship, the subject's or teacher's manner of approach, the confidence the teacher had in the subject, and the possitive results of these contacts.

PLATE IV

The subject's initial response to the situation would be noted by the research assistant, and aspects not reported by the subject would be brought to his attention. Some of these might be the free and open reception of the subject's conversational overtures to an adult and/or peers, activities which were recalled in connection with the situation, and activities which were initiated or followed. The subject's appearance and dress would perhaps be noted, and the positive aspects called to his attention and reinforced.

PLATE V

Activities outside the classroom which were of importance to others and consequently to the subject were photographed. The subject's contributions to them were noted, and the social skills which the subject exhibited with teachers, parents, and other adults were called to the subject's attention and considered.

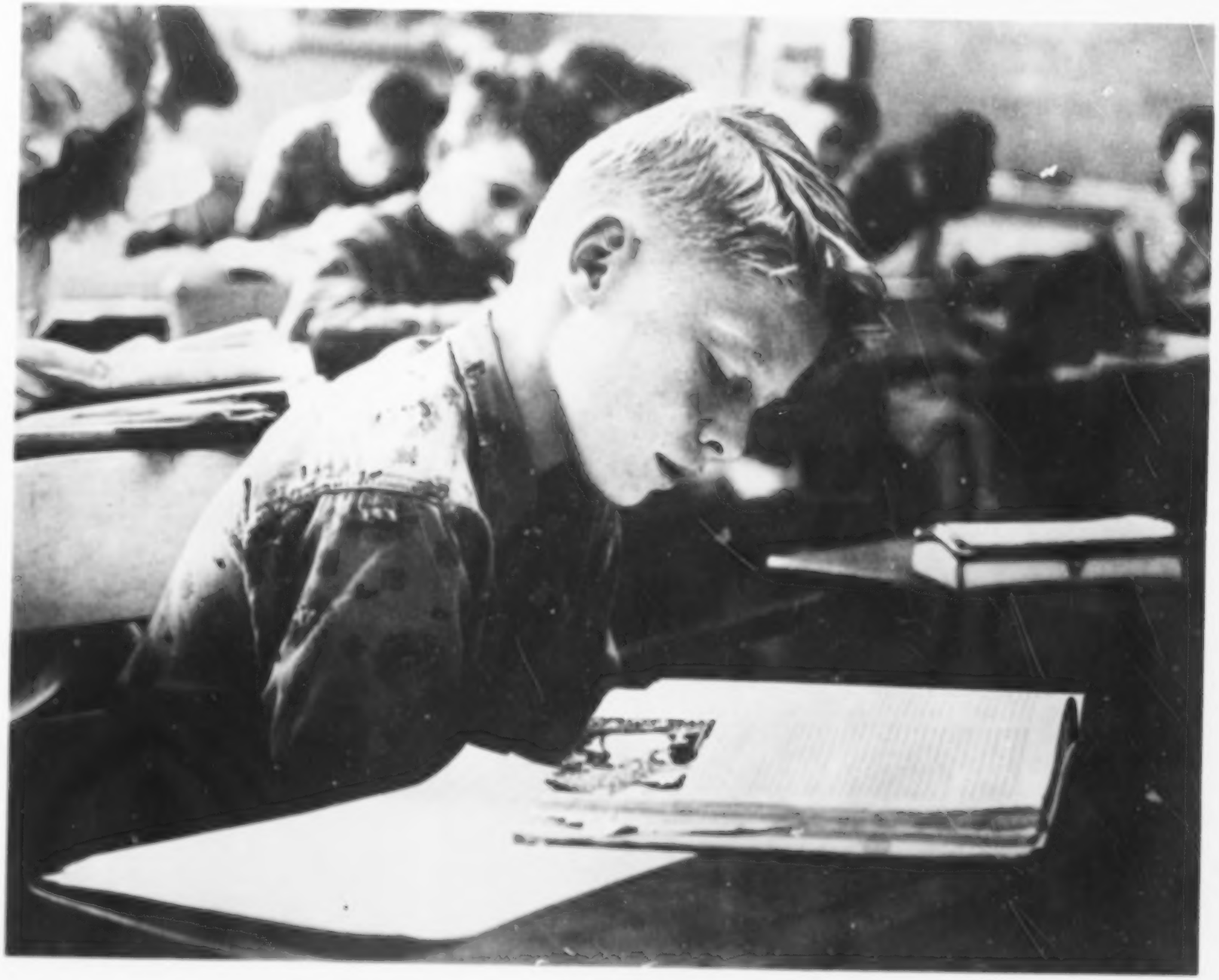

PLATE VI

The picture perhaps stimulated the subject to recall the text he was reading, the interest he had in it, the projects which he had completed, and responsibilities he had taken with others. The research assistant supplied information on the situtation which the subject had not mentioned and sometimes commented on the subject's responses.

PLATE VII

The subject was reinforced on his good study habits and his accomplishments in particular areas of the curriculum. His knowledge of materials in the field and his contributions to others, if not recalled, was mentioned by the research assistant.

PLATE VIII

Activities other than textbook were photographed, and the subject's skills and abilities in them, along with his relationships with others with whom he engaged in these activities, were discussed.

PLATE IX

Manual dexterity and other attributes the subject had in handling materials, as well as his ideas in using them and his completed projects, were either recalled by him, or called to his attention and discussed in the interviews.

PLATE X

Peer relationships, with the same and with the opposite sex, were brought into the interviews through pictures made on the school grounds and in the classroom. The positive aspects of these relationships were noted by the researcher, and the subject encouraged to recognize his strengths and his contributions to others.

PLATE XI

Athletic and body prowess was noted and discussed in the interviews. Subjects recalled their triumphs, and sometimes their losses. Some subjects had a preoccupation with athletic endeavors and accomplishments, and pictures of themselves in such situations elicited much more response from them than any others.